

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM I45HER |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number | 513307760 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-134a | | |
| 3 Nominal voltage and frequency | 115-127 / 60 | [V / Hz] | |
| 4 Application type | Low Back Pressure | | |
| 4.1 Evaporating temperature range | -35°C to -10°C | (-31°F to 14°F) | |
| 5 Motor type | RSIR | | |
| 6 Starting torque | LST - Low Starting Torque | | |
| 7 Expansion device | Capillary tube | | |
| 8 Compressor cooling | | Operating voltage range | |
| | | 50 Hz | 60 Hz |
| 8.1 LBP (32°C Ambient temperature) | Static | 90 to 110 V | 103 to 140 V |
| 8.2 LBP (43°C Ambient temperature) | Static | 90 to 110 V | 103 to 140 V |
| 8.3 HBP (32°C Ambient temperature) | - | - | - |
| 8.4 HBP (43°C Ambient temperature) | - | - | - |
| 9 Maximum condensing temperature | | | |
| 9.1 Operating | 14.2 | [kgf/cm ²] (202 psig) | / °C - °F |
| 9.2 Peak | 15.9 | [kgf/cm ²] (226 psig) | / °C - °F |
| 10 Maximum winding temperature | 130 | [°C] | |

B - MECHANICAL DATA

| | | |
|-------------------------------|---------------|--|
| 1 Commercial designation | 1/8 | [hp] |
| 2 Displacement | 3.77 | [cm ³] (0.230 cu.in) |
| 2.1 Bore [mm] | 19.000 | |
| 2.2 Stroke [mm] | 13.300 | |
| 3 Lubricant charge | 160 | [ml] (5.41 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO10 | |
| 4 Weight (with oil charge) | 7.68 | [kg] (16.93 lb.) |
| 5 Nitrogen charge | 0.2 to 0.3 | [kgf/cm ²] (2.84 to 4.27 psig) |

C - ELETRICAL DATA

| | | |
|--|------------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 115-127 V 60 Hz 1 ~ (Single phase) | |
| 2 Starting device type | Current Relay | |
| 2.1 Starting device | 213514040 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | 4TM757KFBYY-53 | |
| 6 Start winding resistance | 11.90 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 5.00 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 15.00 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | 1.62 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | CE - TUV - UKCA - UL | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS: @115V60Hz | | | ASHRAELBP32 Static | | Evaporating temperature (Condensing temperature | | -23.3°C (-9.94°F) 54.4°C (129.92°F) | |
| Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| 420 | 106 | 123 | 93 | 1.27 | 2.39 | 4.50 | 1.13 | 1.32 |

E - PERFORMANCE - CURVES

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @115V60Hz | | | ASHRAE32 Static | | (Condensing temperature 45°C (+113°F)) | | | | |
| Evaporating temperature | Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| °C (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 (-31) | 212 | 53 | 62 | 67 | 1.12 | 1.20 | 3.14 | 0.79 | 0.92 |
| -30 (-22) | 308 | 78 | 90 | 77 | 1.17 | 1.74 | 4.01 | 1.01 | 1.17 |
| -25 (-13) | 425 | 107 | 125 | 88 | 1.23 | 2.41 | 4.84 | 1.22 | 1.42 |
| -20 (- 4) | 563 | 142 | 165 | 100 | 1.30 | 3.20 | 5.66 | 1.43 | 1.66 |
| -15 (+ 5) | 720 | 181 | 211 | 111 | 1.38 | 4.11 | 6.45 | 1.63 | 1.89 |
| -10 (+14) | 896 | 226 | 262 | 123 | 1.46 | 5.13 | 7.25 | 1.83 | 2.12 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @115V60Hz | | | ASHRAE32 Static | | (Condensing temperature 55°C (+131°F)) | | | | |
| Evaporating temperature | Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| °C (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 (-31) | 157 | 40 | 46 | 62 | 1.10 | 0.89 | 2.52 | 0.64 | 0.74 |
| -30 (-22) | 254 | 64 | 74 | 75 | 1.16 | 1.44 | 3.38 | 0.85 | 0.99 |
| -25 (-13) | 372 | 94 | 109 | 89 | 1.23 | 2.11 | 4.18 | 1.05 | 1.23 |
| -20 (- 4) | 512 | 129 | 150 | 103 | 1.32 | 2.91 | 4.94 | 1.25 | 1.45 |
| -15 (+ 5) | 670 | 169 | 196 | 118 | 1.42 | 3.83 | 5.66 | 1.43 | 1.66 |
| -10 (+14) | 848 | 214 | 248 | 133 | 1.53 | 4.86 | 6.36 | 1.60 | 1.86 |

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|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @115V60Hz | | | ASHRAE32 Static | | (Condensing temperature 65°C (+149°F)) | | | | |
| Evaporating temperature | Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| °C (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 (-31) | 112 | 28 | 33 | 57 | 1.08 | 0.63 | 1.96 | 0.49 | 0.57 |
| -30 (-22) | 206 | 52 | 60 | 73 | 1.15 | 1.17 | 2.82 | 0.71 | 0.83 |
| -25 (-13) | 321 | 81 | 94 | 89 | 1.23 | 1.82 | 3.61 | 0.91 | 1.06 |
| -20 (- 4) | 458 | 115 | 134 | 106 | 1.34 | 2.60 | 4.32 | 1.09 | 1.27 |
| -15 (+ 5) | 614 | 155 | 180 | 124 | 1.46 | 3.50 | 4.97 | 1.25 | 1.46 |
| -10 (+14) | 789 | 199 | 231 | 142 | 1.59 | 4.52 | 5.58 | 1.40 | 1.63 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|--------------------------------|------|--------------------------|
| 1 Base plate | Universal EG/F/AMEM version 2 | | |
| 2 Tray holder | No | | |
| 3 Connectors | | | |
| 3.1 SUCTION | 6.5 +0.12/-0.08 | [mm] | (0.256" +0.005"/-0.003") |
| 3.1.1 Material | Copper | | |
| 3.1.2 Shape | Slanted parallel to Base Plate | | |
| 3.2 DISCHARGE | 4.94 +0.08/-0.08 | [mm] | (0.194" +0.003"/-0.003") |
| 3.2.1 Material | Copper | | |
| 3.2.2 Shape | Straight | | |
| 3.3 PROCESS | 6.5 +0.12/-0.08 | [mm] | (0.256" +0.005"/-0.003") |
| 3.3.1 Material | Copper | | |
| 3.3.2 Shape | Straight | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |